REMARKS

The Office Action has rejected claims 1-5 under 35 U.S.C. § 112, first paragraph, § 102, and § 103. The Office Action also rejected claim 3 under 35 U.S.C. § 112, second paragraph. In light of the amendments above and arguments below, Applicants respectfully request reconsideration.

§ 112 Rejections

The Office Action has rejected claims 1-5 under 35 U.S.C. § 112, first paragraph as not being enabled by the specification on the grounds that

> "the specification, while being enabling for methods of reducing not eliminating the risk of the onset of Type I diabetes in patients with autoantibodies toward glutamic acid decarboxylase or insulin, does not reasonably provide enable for methods of eliminating the onset of all forms of diabetes in any human patients"

Applicants have amended claim 1 to include the limitation of the onset of Type I diabetes, wherein Type I diabetes is detectable in a patient with autoantibodies to β cell antigens, for example, glutamic acid decarboxylase or insulin.

Applicants point out that the specification supports eliminating the onset of Type I diabetes in patients. Applicants direct Examiner to the specification page 14,

lines 1-2, where the specification describes eliminating the onset of Type I diabetes in 75-90 percent of subjects with oral administration of an effective dose of 1α-hydroxy compounds. The specification demonstrates more than a reduction in the symptoms of Type I diabetes, but preventing or eliminating the onset of Type I diabetes in patients with autoantibodies to β cell antigens.

The Office Action has rejected claim 3 under 35 U.S.C. § 112, second paragraph as not using proper Markush language. Applicants have amended claim 3 with proper Markush language, as suggested by Examiner.

§ 102 Rejections

The Office Action has rejected claims 1-5 under 35 U.S.C. § 102(b) as being inherently anticipated by DeWille, et al.

DeWille discloses a method for orally ingesting vitamin D_3 to promote intestinal absorption of calcium. Applicants have amended claim 1 to include the step of identifying a human Type 1 diabetes patient, wherein Type I diabetes is detectable in a patient with autoantibodies to β cell antigens. The step of identifying human Type I diabetes patients is not present in DeWille. DeWille does not discuss diabetes, nor patients with autoantibodies to β

cell antigens. Therefore, DeWille does not meet all the process steps of claim 1, and thus, does not inherently meet the intended use of claim 1.

§ 103 Rejections

The Office Action has rejected claims 1 - 5 under 35 U.S.C. § 103 as being unpatentable over Mathieu in view of EURODIAB, Mauricio, et al. and DeWille, et al. and Facts and Comparison 1999.

Examiner cites that Mathieu teaches "that using 1, 25 dihydroxy vitamin D_3 prevents autoimmune diabetes in NOD mice. . ." Examiner acknowledges Mathieu does not teach oral administration.

Examiner cites EURODIAB and Muricio as collectively providing the understanding that "vitamin D and analogues thereof . . . improve the symptoms of autoimmune diseases and diabetes. . ." Applicants note that Mathieu, et al., used in combination with EURODIAB and Muricio, still does not teach oral administration.

Applicants point out to Examiner that the authors in EURODIAB described ordinary vitamin D as possibly reducing the risk of developing Type I Diabetes. The present invention does not claim and, in fact, teaches away from the use of ordinary vitamin D to prevent diabetes. For

example, Applicants note that NOD mice used in the examples of the specification have sufficient amounts of ordinary vitamin D in their diet. These animals developed diabetes quite clearly (as disclosed in the specification and previous work in the field) so ordinary vitamin D cannot prevent diabetes.

As for the Examiner's next citation, Applicants read Mauricio, et al. as discussing the role of 1,25 D_3 in diabetes and numerous other autoimmune diseases. A reading of Mauricio indicates that use of 1,25 D_3 may or may not be successful in diabetes treatment. It is certainly not possible to read Mauricio as teaching that 1,25 D_3 would necessarily be a successful diabetes treatment. Note the first paragraph in the right hand column on page 63, "However, this is still a matter of controversy since recent data on the effects of 1,25 D_3 on influence secretion *in vitro* showed no effect on glucose-stimulated insulin secretion on rat islet . . . or even an inhibition by 1,25 D_3 on rat islet cultures and RIN cells. Although in light of some of these studies the application of 1,25 D_3 as an enhancer of insulin secretion has been proposed in the field of diabetes mellitus, further research is warranted." (emphasis added).

Applicants further point out that claim 1 recites oral administration, "such that the onset of diabetes or diabetes symptoms is eliminated." As discussed above, the specification teaches more than improving or treating symptoms of diabetes, but teaches prevention or elimination of the onset of diabetes. Mathieu, in combination with EURODIAB and Muricio, clearly does not provide the understanding that oral administration of 1α-hydroxy vitamin D compound eliminates the onset of diabetes or diabetes symptoms.

Examiner next cites DeWille and Facts and Comparisons to show that "all vitamin D . . . can be prepared and used orally." However, as applicants point out above, DeWille does not teach oral administration to diabetes patients. Facts and Comparisons also does not list diabetes or any autoimmune disease as an indication for which any form of vitamin D should be administered. Applicants are not disputing that DeWille and Facts and Comparisons teach oral administration of vitamin D. However, Applicants point out that DeWille and Facts and Comparisons, in combination Mathieu, EURODIAB and Muricio, do not teach oral administration of 1α-hydroxy vitamin D as a uniquely successful mode of administration for eliminating the onset of diabetes.

Therefore, Applicants assert that one could not combine the Examiner's cited references to teach the success of the Applicants' cited compounds and mode of administration in preventing the onset of Type I diabetes.

Applicants believe that the claims are in condition for allowance and respectfully request allowance. No fees are believed necessary. However, if a fee is necessary please charge Deposit Account 17-0055.

Respectfully submitted,

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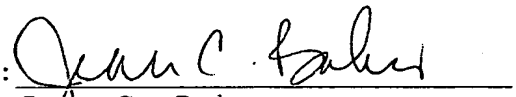
By: 

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